

ED BOOKS " OF THE

BRITISH FIRE PREVENTION COMMITTEE.—No. 190.

Edited by the Executive.

- I. THE COMMITTEE'S RECORD FOR THE YEAR 1913.
- II. THE COMMITTEE'S CHRISTMAS "WARNINGS."
- III. SAFEGUARDS FOR SCHOOL ENTERTAINMENTS.
- IV. INFLAMMABLE MATERIALS FOR COSTUMES AND DECORATIONS.
- V-VII. CELLULOID DANGERS.
- VIII. FLANNELETTE DANGERS.
- IX. PORTABLE CHEMICAL FIRE EXTINGUISHERS.
- X. SELF-CONTAINED SMOKE HELMETS.
- XI. THE COMMITTEE'S ENQUIRY OFFICE.

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LONDON, 1914

PUBLISHED AT THE OFFICES OF  
THE BRITISH FIRE PREVENTION COMMITTEE  
(Founded 1897—Incorporated 1899)  
8 WATERLOO PLACE, Pall Mall.

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*BRITISH FIRE PREVENTION COMMITTEE.—No. 190.*

*Edited by the Executive.*

**I. THE COMMITTEE'S RECORD FOR THE YEAR 1913.**

(SPECIAL FEATURES OF THE YEAR'S WORK—CURRENT WORK AND ROUTINE MATTERS.)

**II. THE COMMITTEE'S CHRISTMAS "WARNINGS."**

(THE 1913 ISSUE OF 23,000 WARNINGS.)

**III. SAFEGUARDS FOR SCHOOL ENTERTAINMENTS.**

(THE COMMITTEE'S SUGGESTIONS.)

**IV. INFLAMMABLE MATERIALS FOR COSTUMES AND DECORATIONS.**

(THE HOME OFFICE CIRCULAR.)

**V-VII. CELLULOID DANGERS.**

(THE HOME OFFICE CIRCULAR—PUBLIC CONTROL IN GERMANY—CINEMATOGRAPH FILMS IN PARIS.)

**VIII. FLANNELETTE DANGERS.**

(THE NEW ENACTMENT.)

**IX. PORTABLE CHEMICAL FIRE EXTINGUISHERS.**

(THE COMMITTEE'S NEW STANDARD TEST AND PROVISIONAL SPECIFICATION.)

**X. SELF-CONTAINED SMOKE HELMETS.**

(THE LONDON COUNTY COUNCIL'S REPORT.)

**XI. THE COMMITTEE'S ENQUIRY OFFICE.**

(SOME QUERIES AND REPLIES.)

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8 WATERLOO PLACE, Pall Mall.

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*Two Shillings and Sixpence.*

## OBJECTS OF THE COMMITTEE.

The main objects of the Committee are:

To direct attention to the urgent need for increased protection of life and property from fire by the adoption of preventive measures.

To use its influence in every direction towards minimizing the possibilities and dangers of fire.

To bring together those scientifically interested in the subject of Fire Prevention.

To arrange periodical meetings for the discussion of practical questions bearing on the same.

To establish a reading-room, library and collections for purposes of research, and for supplying recent and authentic information on the subject of Fire Prevention.

To publish from time to time papers specially prepared for the Committee, together with records, extracts, and translations.

To undertake such independent investigations and tests of materials, methods, and appliances as may be considered advisable.

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*The Committee's Reports on Tests with Materials, Methods of Construction, or Appliances are intended solely to state bare facts and occurrences, with tables, diagrams, or illustrations, and they are on no account to be read as expressions of opinion, criticisms, or comparisons.*

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*The Committee is not responsible for the views of individual authors as expressed in Papers or Notes, but only for such observations as are formally issued on behalf of the Executive.*

*Similarly the Committee is not responsible for any translation or any summarized translation or explanation of its Reports in a foreign language, even if issued in conjunction with the official English version.*

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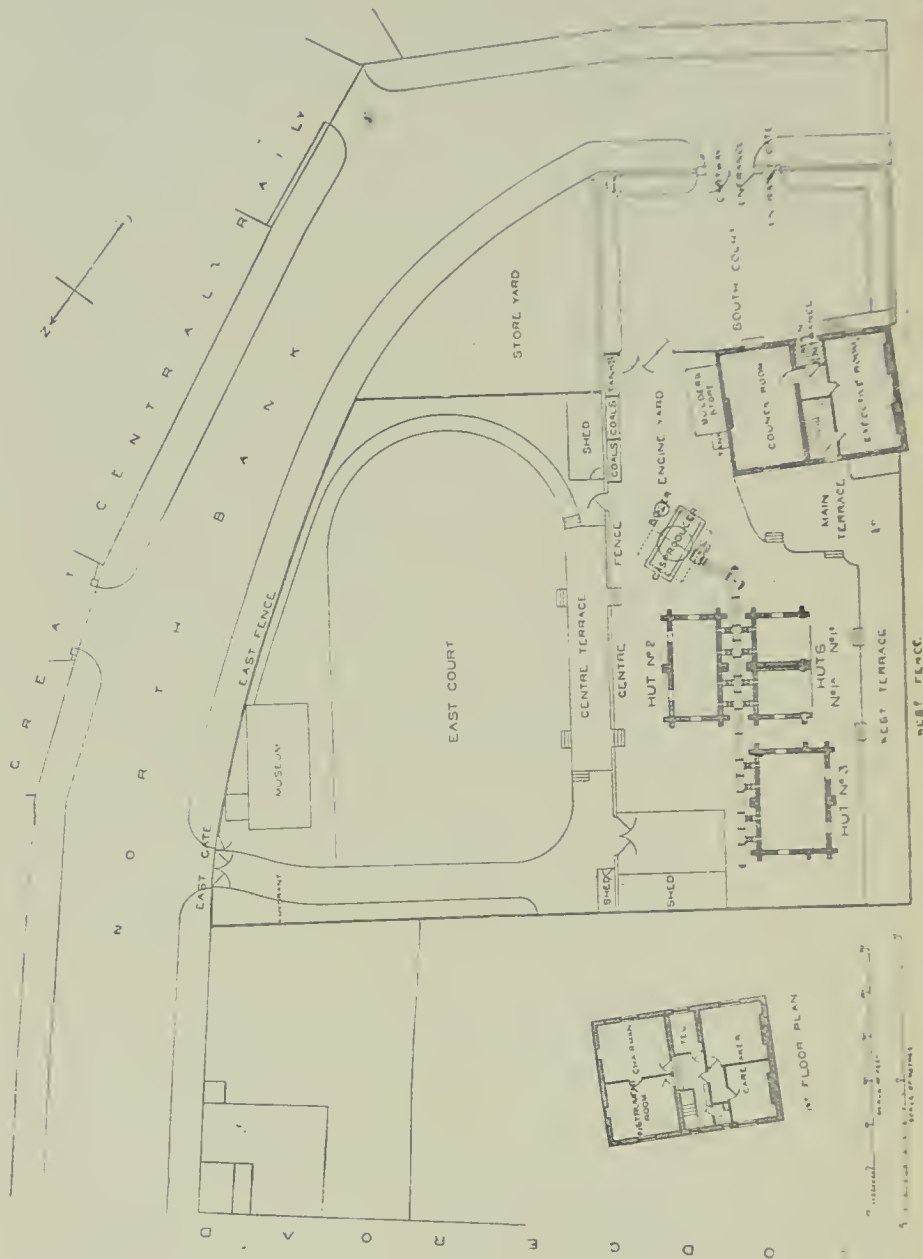
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## NOTE

Although a continuity of style and arrangement in an Annual Report has decided advantages, it is occasionally necessary to make changes in a publication of this description to meet new developments and altered conditions.

Originally the Committee's Annual Reports were intended to reach the members only, and for all practical purposes they were private documents of a formal character and of very limited circulation.

But, as explained in the prefatory Note to "Red Book" No. 180, the scope and work of the Committee has materially increased, and some new form of Annual Report appeared to be desired both by the members and by a wide circle outside the Committee, the idea being that it should contain some reference to the Committee's achievements, any new departures in the Committee's programme of work—such as new legislation—and notes on the results due to its efforts. In other words something more than a simple narration of attendances at meetings, publications issued, income and expenditure was asked for.

Further, the Executive had so far had no suitable opportunity for giving publicity—except by special circular—to such matters of general interest, which, whilst scarcely having claim to issue in a separate "Red Book," nevertheless well merit inclusion in some publication of the Committee that is easily available for reference purposes.

Therefore, after due consideration, it was decided to change the form of the Annual Report for 1912 and "Red Book" No. 180 was presented as a "Record" of that year with some additional "Memoranda," whilst a small separate supplement comprising a formal report on questions of internal administrative detail and finance was issued to members only as leaflet No. 180a.

This new departure has been very well received so that the new form of "Annual Record" has again been adopted for 1913. The "Record" of the year with its various "Memoranda" should be useful not only as an indication of the Committee's work, but *for general reference purposes*, and it is hoped that this will be considered to be the case.

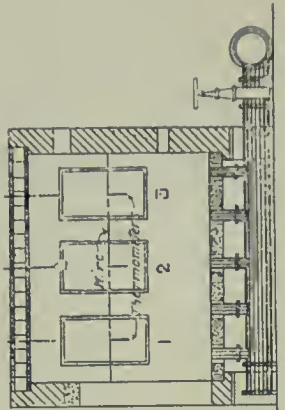
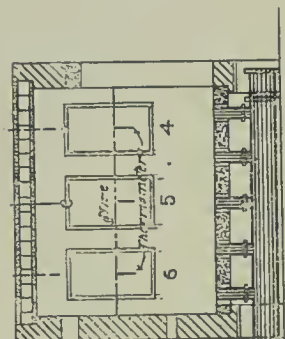
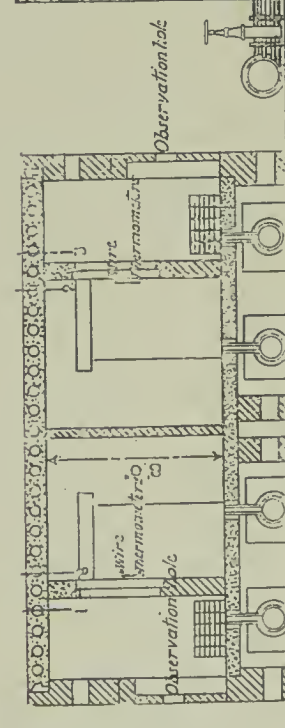
Where certain precautionary measures against fire—issued by way of warning or otherwise—claim close attention they have been printed in red.

EDWIN O. SACHS, *Chairman.*

ELLIS MARSLAND, *Gen. Hon. Secretary.*

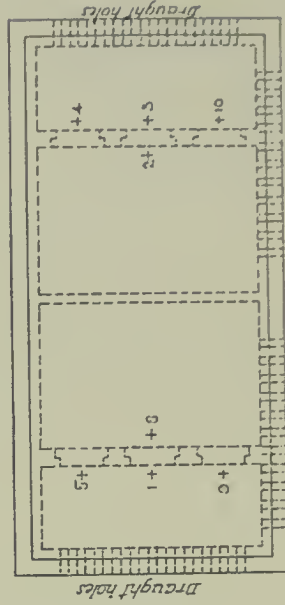
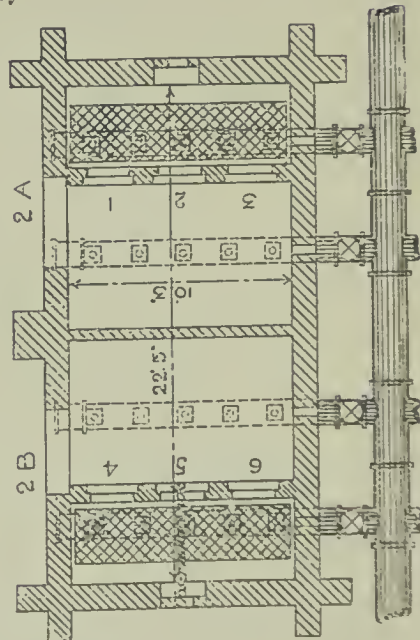
*Offices of the Committee,  
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*June 4, 1914.*



SECTION LOOKING EAST

SECTION LOOKING NORTH SECTION LOOKING SOUTH



PLAN OF ROOF

NOTE: Points marked 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 are  
the same positions as marked in wires  
looking N. & S. respectively

PLAN OF HUT

TESTING CHAMBER No. 2 ARRANGED FOR GLAZING TESTS. PLANS AND SECTIONS

THE  
**British Fire Prevention Committee**

(FOUNDED 1897—INCORPORATED 1899.)

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**PART I.**

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**THE COMMITTEE'S RECORD FOR 1913**

BEING THE FIFTEENTH ANNUAL REPORT PRESENTED BY

**THE EXECUTIVE**

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**A. SPECIAL FEATURES OF THE YEAR'S WORK.**

The work of the Committee for the year 1913 was again of an active character, and included much that was of special interest.

The following matters among others received attention:

1. *Popular "Warnings as to Fire Risks."*—Following on the beneficial issue of "Warnings" and "Cautions" on the occasion of the Coronation of 1911 and the Committee's Christmas "Warnings" of 1912, a further effort was made to reduce the fire risks common to the festivities and entertainments of the Christmas season of 1913 by a yet more extensive distribution of suitable notices. On this occasion London and almost the whole of the English counties were systematically dealt with. The Committee's recommendations and notices were well received and largely acted upon in the best possible spirit. The Police throughout the country, as also the daily, weekly and technical Press, assisted the Committee in every way in its efforts in the direction desired, and the result was that the number of fires and injuries through fire during the Christmas season was exceptionally small in the areas dealt with and the fatalities from this cause as at Christmas 1912 reduced to nil. A report of the Committee's work in this direction will be found in Part II of this "Red Book" (p. 21), from which the extent and character of the work done may be gauged, the number of posters issued alone numbering no less than 23,000.

2. *Celluloid Dangers.*—The Committee continued its efforts to call attention to celluloid dangers, which are rapidly increasing in respect to ordinary celluloid articles in common use, on sale or in process of fabrication, and also in respect to celluloid films in store and transit.

A comprehensive statement on the subject with recommendations was put before the Home Office Departmental Committee, which was enquiring into the matter and this statement in extended form was issued to the members and subscribers as "Red

Book " No. 179, and also issued to many public authorities and others concerned at home, in the Colonies and abroad. The preparation of the statement was placed in the hands of Mr D. W. Wood, the Vice-Chairman of the Testing Arrangements Sub-Committee, who also most ably presented the Committee's evidence. The Earl of Plymouth, C.B., who presided at the enquiry specially thanked the Committee and its witness for the work done in the matter, and a flattering acknowledgment of the assistance rendered appears in the report of the Departmental Enquiry. Many of the B.F.P.C. suggestions were adopted.

In connection with the danger of possible misdescription of certain celluloid films sold as " safe " and also certain films made of celluloid substitutes, the Committee framed a standard test in 1912 with the view of giving *bona fide* safety films the classification of " non-flaming." The Enquiry without recommending any specific test, approved the idea of encouraging suitable substitutes for films, as also some form of official test as urged by the B.F.P.C. Up to the date of the issue of this report, only one celluloid substitute for cinematograph films has been submitted for test under this standard, and has achieved the classification of " non-flaming." The public are warned not to accept makers' descriptions or advertisements as to the safety of films that have not passed the B.F.P.C. or some Government test in this country.

Regarding the general question as to the advisability of allowing the use of celluloid cinematograph films in the Empire, the Executive desires to put the following observations on record:

(a) In Prussia celluloid substitutes which have passed a certain standard test when used as cinematograph films give the users and building owners certain easements from the general protective regulations in force for cinematograph displays.

(b) The Executive of the British Fire Prevention Committee see no reason why—given due and ample notice—the use of celluloid for cinematograph films should not be entirely prohibited in the Empire, and are convinced that the industries concerned would suffer no hardship thereby,—but probably the reverse—*i.e.*, would find their sphere of work materially extended.

(c) It thus welcomes as a step in this direction the recent order of the Prefect of Police of Paris which is presented in translation in Part VII of this " Red Book " (p. 31), and which prohibits the use of celluloid cinematograph films in Paris after July 1st, 1915.

(d) No future general prohibition of the use of celluloid for cinematograph films in this country or elsewhere should, however, be allowed to affect the precautionary measures essential under existing conditions or during any intermediate stage pending such a prohibition.

A vast amount of valuable information on the question of celluloid dangers and protective measures abroad was obtained from the American, Austrian, Danish, Dutch, French, German and Swedish authorities, and the Committee's special thanks are due

in particular to the following Hon. Foreign Members and Hon. Cor. Members who rendered assistance, *i.e.*, Colonel Cordier (Paris); Ch. Officer Effenberger (Hanover); Mr Hexamer (Philadelphia); Ch. Officer Meier (Amsterdam); Hon. Ch. Officer Mueller (Vienna); Ch. Officers Reddemann (Leipzig); Reichel (Berlin); Westphalen (Hamburg); Professor Woolson (New York); as also to Herr von Glasenapp (Berlin).

In order to obtain some first-hand information as to the protective arrangements in force on the Continent and their feasibility, the Chairman and the Hon. Treasurer jointly visited various establishments connected with the celluloid industry in Berlin and Leipzig, and a Memorandum on their visit will be found in Part VI of this "Red Book" (*see p. 29*).

3. *Flannelette Dangers*.—The Committee continued its efforts to reduce the risk to life arising from the use of flannelette. In 1912 it submitted to the Government department concerned a draft Bill indicating what it considered essential legislation, and it also made recommendations as to the adaptation of the Committee's Standard Flannelette Test as a Government test for "safety" flannelette. Particulars on the subject will be found in Red Book No. 180.

Thanks to Mr T. C. Taylor, M.P., a private Bill was submitted to the House of Commons last Session to cover the question of the sale of flannelette under misdescription, and the enactment is now on the Statute Book. Whilst this Act in the Committee's view is not sufficient, it may be considered a step in the right direction, which should be followed by a further measure, preferably introduced by the Home Secretary. The vested interests of the flannelette trade are great and several manufacturers are not over scrupulous in their methods and the false labels under which flannelette has long been and is still being sold (regardless of the new Act) amounts almost to a public scandal. Thus the question may require further energetic action on the Committee's part.

Particulars of the new Enactment will be found in Part VIII of this Red Book, as also a copy of the Home Secretary's test which is a simplified version of the B.F.P.C. Standard Flannelette Test adopted by the Home Office after consultation with the Committee's Executive.

4. *Safety from Fire on Board Ship*.—The question of affording suitable protection from fire on board passenger ships has been under consideration having regard to the increasing danger of fire, on large liners in particular.

A statement on the subject and suggestions have been prepared on behalf of the Executive by the Chairman after consultation with members of the Committee specially conversant with the subject. This statement has since been presented by request to the Merchant Shipping Advisory Committee of the Board of Trade who also took evidence from the Chairman early in 1914.

During the latter part of 1913 an International Conference as



to Safety of Life at Sea was held in London on which the fire aspect was not pressed by the British delegates to the same extent as many other departments of the subject, nor was the subject of fire protection accorded a separate sub-committee. The International Convention which resulted from this Conference and which was published in February, 1914, neglects the question of fire protection, which is neither accorded the prominence it should have received, nor are the requirements as set out technically up to date.

Under these circumstances the Executive deemed it their duty to confidentially circulate during March, 1914, the statement presented to the Merchant Shipping Advisory Committee (with some slight variations and additions) to the President and principal delegates of each contracting country, to the Governments of the principal contracting countries and to the principal British authorities and corporations concerned (including the Admiralty in the matter of transports). They have also sent confidential copies to the owners of the principal leviathans, namely, to the Chairman of the Cunard Line, White Star Line, Hamburg-America Line and North German Lloyd. In the event of a disaster in the future this should preclude any excuse that up-to-date technical information as to what is essential for ships of this class is not available.

The statement (abbreviated) will also be published as "Red Book" No. 189, and the subject pressed for public attention.

It may be of interest to note that three foreign Governments have apparently now decided to act closely upon the suggestions made by the Committee and that the Hamburg-America Line have promptly taken up many of the suggestions for introduction in detail.

5. *Portable Chemical Fire Extinguishers.*—The increasing interest in matters relating to portable chemical fire extinguishers led to a Special Extinguisher Research Sub-Committee being set up under the chairmanship of Mr D. W. Wood.

Extensive investigations and tests were conducted by this Special Sub-Committee during 1913 and based upon these investigations, and the results of previous tests undertaken by the Committee, certain standard tests and model specifications were formulated and issued.

Much of the research work here referred to is dealt with in detail in "Red Books" Nos. 185 and 186, and a further "Red Book" on the subject is to be issued in 1914.

"Red Book" No. 186 contains the new standard test and specification, but they are repeated in Part IX of this "Red Book" for easy reference (*see p. 33*).

The amount of work done by this Sub-Committee was exceptional, and it would not have been possible had not the various Government Departments and others co-operated by the loan of appliances to be submitted for test, some eighty appliances being thus put at the disposal of the Committee, many of which were no longer fit for use after completion of the investigations.



The Committee's Standard Test and Model Specification have been issued to an edition of 2,250 and are provided free to all enquirers upon written application (with return postage enclosed).

It is hoped that by this issue the public may be better protected against the purchase of inefficient and dangerous fire extinguishers, and that the make of these appliances may be generally improved.

A covering note issued by the Committee further pointed to the importance of maintenance and the proper handling of such appliances and to the fact that other simple first-aid appliances, such as buckets and hand-pumps, were equally and often more effective for first aid.

In connection with the important question of arriving at a suitable standard specification for portable chemical fire extinguishers purchased by or specified by certain Government Departments a protracted conference took place between the delegates of the authorities primarily concerned at which this Committee was invited to be represented, and the Committee put their data and their testing station at the disposal of this conference. Such Government Specifications will no doubt in the near future be based on the British Fire Prevention Committee's standard with such additional requirements as may be necessary for closely fixing Government contracts.

6. *Testing Operations.*—The scientific work carried out at the Committee's Testing Station during the year 1913 was both varied and extensive. The tests conducted by the Committee included such divergent subjects as the following proprietary products, but the number of tests of this class was smaller than in 1912:

- A reinforced concrete floor.
- Two single reinforced concrete doors.
- Partitioning material (a series of six tests).
- Sets of casements glazed with fire-resisting glazing (three openings being thus protected).
- One type of fire extinguisher (requiring a series of 16 tests).

The testing operations of the year, which, however, claimed primary attention were the exhaustive series of tests with portable chemical fire extinguishers dealt with in paragraph 5 of this Report.

7. *Testing Station Improvements.*—A considerable amount of time and money have again been devoted to improving the plant at the Testing Station to meet modern demands. The levelling of the new site leased in 1912 has been completed, paths and a terrace have been formed and the new boundary fences have been completed, some £150 having been expended on these items as capital outlay. A plan of the testing station will be found on page 4.

8. *Technical Enquiry Office.*—The enquiries on technical matters that reach the Committee are rapidly increasing. Considered replies are invariably issued to members and subscribers enquiring

and, where feasible, to public authorities at home, in the Colonies, and abroad, but it may become necessary to limit the work for authorities who do not subscribe as the work has become so considerable.

The procedure adopted is either to refer enquiries to sub-committees or to the members of the Executive and other principal officers particularly conversant with the subject. The subject matter covered by queries and replies would be eminently instructive, if published, but this is not possible in most cases.

An instance of an interesting enquiry from a subscribing authority in the East is, however, presented in Part XI, which will give an idea of how such questions are dealt with (*see p. 37*).

The value of the Committee's Enquiry Office has scarcely been realized by the members and subscribers, and its work should eventually become a feature of importance to many concerned in the subject of fire prevention not yet associated with the Committee.

In replying to technical enquiries as to materials and appliances, the answers are largely based on the results of the Committee's tests. Materials and appliances that have been submitted for test are only mentioned to enquirers. The classifications are given on the reports named and it then remains with the enquirer to select (according to price or other special considerations) what they require from among the selection named, appliances and materials not tested by the Committee not coming into consideration at all. Having before him say a dozen floors, two dozen doors, some half dozen forms of glazing or half a dozen types of extinguishers that have been tested and reported upon in detail it obviously becomes unnecessary, not to say unwise, for the enquirer even to consider such work as has not been submitted for test as the responsibility of having used untested work where tested work is available would be a serious matter for the enquirer in the event of accident.

In a few quite exceptional cases reliable independent data of an official character have been obtained in Great Britain in respect of materials and appliances that have not yet been before the Committee. In such cases, such independent official British reports are referred to, especially where it is a case of warning authorities against some special risk.

Among the many technical questions that reach this Committee, enquiries as to the value of self-contained smoke helmets have, for instance, lately been very frequent.

As the Committee has not undertaken research work itself as to such helmets, and is yet fully alive to the inadvisability and danger of unsuitable appliances being put into commission, it has deemed it well to frame a "Memorandum" on the subject, pointing to a report of the Fire Brigade Committee of the London County Council, which should be of service to members and subscribers. This memorandum is in Part X of this "Red Book" (p. 35), and is an example of how a reply is given where the Committee has no experimental data of its own to go upon.

9. *The Committee's Publications.*—As to publications, apart from its usual "Red Books," the Committee has issued Journal X, comprising a profusely illustrated report by the Committee's Special Commission to Russia. This publication, which dealt with the fire protective arrangements of a country not previously described, was well received.

The Committee was specially honoured by the acceptance of copies of this Report by His Majesty the King, by Queen Alexandra and by the Emperor of Russia and complimentary copies were presented to the public authorities concerned at home and in Russia.

A French and a German summary of the report were issued especially for the use of the Russian authorities who had assisted the Committee with data.

Regarding "Red Books" other than those relating to tests there was the special publication on Celluloid Dangers referred to above and a report on Fire Tests with Partitions made in the United States, issued as No. 181.

10. *Foreign Edition of the "Red Books."*—The very interesting development in the matter of the Committee's Red Books appearing in form of an Anglo-German edition, comprising the English text with preliminary German matter in the form of summaries—as announced last year—has been successfully put into operation by the Hanoverian publishers, Messrs Rechts Verlag, of 6A Koenigstrasse, Hanover, with whom Dr W. Schaefer is closely associated. This, as previously indicated, is probably the first occasion that any regular publication of a British scientific association is being published regularly in a foreign tongue and it is a matter of congratulation that the work of the Committee should be so appreciated in a foreign country, as to create a demand for a regular German translation of its reports.

In connection with the Anglo-German edition, a special sub-Committee was formed from the members and honorary members with joint honorary secretaries, one in Hanover and one in London. The thanks of the Committee are specially due to the latter, Chief Officer Effenberger (Hanover) and Mr T. R. Brooke (London).

The first Red Book to appear in the Anglo-German edition was No. 173.

11. *The Committee's International Fire Library.*—Regarding the Committee's International Fire Library, the new sub-committee in charge of this department of the Committee's work (with Mr Oswald C. Wylson, F.R.I.B.A., as Chairman) has commenced operations and the new subject catalogue on the card index system is well in hand.

The Library is being enlarged and this opportunity is taken to indicate that suitable gifts of books, records and the like would be very welcome. A list of gifts received will be published from time to time.

12. *The Committee's Technical Collections.*—The development

of the Committee's technical collections is having the consideration of the Executive and some of the work tested by the Committee is now being exhibited at the Testing Station. The exhibits have been labelled for reference purposes and are open to the members, subscribers and representatives of public authorities upon application in writing for cards.

The question of forming an historical museum has had to be deferred on account of expense, but a small commencement has been made with a collection of old prints and fire marks which are exhibited in one of the Committee's rooms at the Testing Station.

13. *Scientific Aspects of Fire Service Work.*—The Executive continue to make efforts to impress upon the authorities concerned that fire preventive measures are of equal importance to fire fighting and matters relating to the equipment and housing of fire brigades. Further efforts are being made to obtain a material improvement in the status of fire brigade officers of provincial centres and in the Colonies, so that the local fire service may eventually be under superior officers of the highest possible technical education and good social position, who should realize the economic importance of fire prevention, as well as fire fighting, as is the case in the London Fire Brigade, where the fire preventive measures of the Metropolis receive every possible attention from the Chief Officer, Divisional and Assistant-Divisional Officers of that force.

It has been the endeavour of the Committee to instil into the minds of the provincial and colonial fire services of the Empire that Fire Prevention is a subject that the service has to master, and, further, that Fire Prevention in its broadest sense covers much that relates to limiting the extent of actual fires, not only by constructive and administrative measures, but by modern forms of fire service organization, training, equipment and tactics.

It is for that reason that the Committee's work includes much that relates to the fire service and that many leading fire brigade officers are such close students of the Committee's literature and collaborators in the Committee's work.

14. *Special Facilities for Members Invalided.*—The Committee has had occasion to consider how members who have contracted illness during the fulfilment of their duties in the public interest and yet are not able to benefit from any insurance or sick fund may be accorded some facilities towards regaining their full health.

The Committee has recently received an offer from the German Spa Wiesbaden to avail itself of facilities that have been offered to those concerned with fire prevention and fire service matters and the Executive have gladly accepted this token of international good-will.

A special sub-committee has been appointed to advise the Executive as to suitable cases. Rules have been framed and particulars of the arrangements are now obtainable from the Committee's offices upon written application.



The Committee have also made arrangements by which similar facilities will be accorded to the members of such other British and Colonial Fire Preventive and Fire Service organizations as the Executive may from time to time determine.

15. *Members Deceased.*—In conclusion the Executive regret to record the death of Sir William Preece, K.C.B., a founder and member of Council who rendered the Committee many valuable services, and they also record with regret the death (early in 1914) of Mr. W. G. Kirkaldy, A.M.Inst.C.E., a member who was always ready to assist the Committee in matters relating to the testing station.

## B. CURRENT WORK AND ROUTINE MATTERS.

(a) *Executive.*—Although the work of the Executive was considerable during the year everything undertaken was satisfactorily completed, thanks to the system of decentralization by Sub-Committees, etc.

The work of the Executive and Sub-Committees, as has already been indicated in previous reports, is done voluntarily and in all instances members bear their own expenses.

The sad death of the Committee's Assistant Secretary, Mr Charles F. Adami (already recorded at the foot of the Committee's previous report), however, threw much additional work upon the Chairman, Hon. Treasurer and General Hon. Secretary, as the funds of the Committee did not permit of a permanent deputy to the Assistant Secretary being included on the staff and they practically had to conduct the routine work for some months. In future, however, the Committee's staff will include a Registrar as deputy and probably an Assistant Librarian. It has been the endeavour of the Executive to keep the expenditure on staff as low as possible and to do much of the work themselves that would otherwise require professionally trained assistants. This principle will be adhered to, but they find that the routine work has grown so as to require an increase of clerical assistance.

(b) *Public Authorities.*—The Committee continues to render service to the various Government Departments and other public authorities when called upon, and the work of the Committee in this direction has increased materially, many matters of importance being referred to the Executive for observation or report.

To give an instance of the nature of the assistance rendered, the Executive have added in Part III of this "Red Book" (p. 25) a Warning they prepared for the Board of Education in respect to school entertainments. This Warning was issued in one of the Board's publications on an extensive scale throughout Wales, and will no doubt be reproduced for other districts.

The Executive desire to take this opportunity to call attention to the excellent circular letter issued by the Home Secretary in 1913, as to the use of inflammable materials for costumes and

decorations in places of public entertainment. This circular letter—which is no doubt the outcome of the British Fire Prevention Committee's past efforts on the subject—was circulated among the local authorities and magistracy, and is reprinted in Part IV of the "Red Book." It was not issued as a popular "Warning," i.e., not as a poster, advertisement or the like, but primarily intended for the practical guidance of those controlling public entertainments. Actually, however, it had a similar effect to that of a public advertisement as it was accorded considerable publicity by the Press.

A similarly most useful circular letter was issued by the Home Secretary in respect to Celluloid Dangers. It embodies several of the Committee's suggestions and is reprinted as Part V (see page 27).

Both the Board of Education Warning and the Home Office circulars led to a large number of enquiries being addressed to the Committee on matters of technical detail.

(c) *Foreign Associations and Exhibitions.*—The Committee, as heretofore, has kept in close touch with the work done by foreign allied associations, and two members of the Executive attended the meetings of the Executive of the International Fire Service Council held at Leipzig in 1913.

The Committee has appointed representatives to serve on an International Commission on the Fire Resistance of Concrete, formed under the auspices of the International Testing Association, and the Chairman of the Committee has accepted the Chairmanship of the International Commission.

The Committee has continued to give some indication of the scope of its work abroad by participating in technical exhibitions. It has exhibited printed matter at the Leipzig Building Exhibition and the Leipzig Fire Exhibition of 1913.

In respect to certain exhibits sent to the St Petersburg Fire Exhibition of 1912 the Committee has been honoured with a Russian Government Gold Medal of Merit.

(d) *Standards.*—The Committee constantly receives enquiries for its Red Book No. 82 in which the Committee's Standards of fire resistance for Floors, Partitions, Doors and Shutters in three languages were published in 1903.

Red Book No. 82 is out of print. For this reason the principal chapter of the Red Book is to be reprinted in 1914 together with other data as a "Red Book" for reference purposes.

It may also be advisable to shortly collect all the Committee's Standards and re-issue them separately as a special "Red Book."

A new standard has been authorized in 1913 for constructional tests with portable chemical fire extinguishers as mentioned above (see Part IX, page 33).

(e) *Reports.*—The total number of reports in "Red Book" form at the end of 1913 numbered 184. The quarto volumes (journals)



issued number nine, and there has also been a considerable number of special publications.

The Committee continues as far as possible to give foreign equivalents on the metric system to all measurements and weights in its publications, but it is not feasible to do this in all cases, more especially where figures have to be presented in tabular form.

For this reason some useful approximate equivalents are to be presented in the Red Book referred to in paragraph (d) which may be of service to members and subscribers. They have been prepared to meet the particular requirements of the Committee's publications.

(f) *Members and Subscribers.*—The ordinary membership of the Committee is 304. There are also 1 honorary member, 13 honorary foreign members and 21 honorary corresponding members, the total membership thus numbering 339.

The number of subscribers (non-members) is 315.

The membership, it should be added, includes the New Zealand section which comprises 6 members and 2 subscribers.

The Committee's Subscribers include several Government Departments and numerous public authorities. Among others are the Admiralty, the War Office, the Home Office, H.M. Office of Works, the Post Office, the Board of Education, the Indian, Australian, New Zealand and South African Governments, and a number of the Crown Colonies.

Corporate bodies, such as the Port of London Authority, the Metropolitan Asylums Board, Lloyd's Register of Shipping, Lloyds, the London Chamber of Commerce, etc., are also included.

The useful information the Committee places at the disposal of subscribers with the view of reducing fire hazards is not so generally known as it should be, otherwise no public authority or corporate body responsible for the safety of life or property from fire, or interested in reducing the risks with which it has to contend, would willingly be without the data this Committee provide.

(g) *Finance.*—The accounts are presented in a separate report as leaflet No. 190a for the use of the members. From this report it will be seen that the income for 1913 from all sources was £1,817 19s. 4d., the expenditure £1,929 9s., and the deficit on the year's working £111 9s. 8d.

Of the estimated expenditure of £400 on the renovation of plant and buildings and the laying out of the new ground £150 has been taken from capital account for the latter purpose. The maintenance expenses for the testing station have increased by additional rentals, etc., now payable.

The finances of the Committee, as before, give the Executive cause for anxiety, and a larger revenue by an increase of subscribers and by grants from authorities is of the utmost importance for the development of its work.

The capital outlay on the Committee's plant has been considerable, for, excluding renewals of plant and minor improvements,

over £1,050 has been expended on the construction and equipment of the Committee's Testing Stations since 1899.

To provide this capital outlay and provide funds for current expenses, over £4,000 has been provided from time to time by way of loans, etc., by members and former members of the Executive during the past fifteen years, the total of such standing and temporary loans at the end of 1913 amounting to £4,150. *Donations would be most welcome.*

It is encouraging to find that the Committee's efforts are from time to time recognized by Government Departments and other public authorities by subscriptions to its work, and although the amounts subscribed are not at present extensive, yet it is hoped that financial support from this source may eventually be increased, having regard to the national and economic value of the work done.

*On behalf of the Executive:*

EDWIN O. SACHS, *Chairman.*

ELLIS MARSLAND, *Gen. Hon. Secretary.*

*Offices of the Committee,*  
8 Waterloo Place,  
London, S.W.

*June 4, 1914.*

## PART II.

### THE BRITISH FIRE PREVENTION COMMITTEE'S

SPECIAL ISSUE OF

#### 23,000 CHRISTMAS "WARNINGS" (1913).

1. The attention of the British Fire Prevention Committee having been called in 1912 to the numerous fires arising out of Christmas celebrations, parties and other festivities connected therewith, frequently involving the loss of life, its Executive decided that it would be advisable to take steps to reduce the risk as far as it was possible to do so, by issuing warnings to the public generally as to the dangers in question and the precautions which should be taken.

2. After careful consideration it was decided to issue one form of "Caution" only, but to issue it in two sizes—one suitable for posting and the other suitable for distribution as a handbill.

3. The text for this "Caution" was considered by a Sub-Committee, an effort being made to reduce its extent and to express it in simple language. A copy of the text is appended hereto (see page 23).

4. Some 15,000 of the larger size of the "Caution" were printed in poster form and considerable quantities of the handbills.

5. The success of the Committee's efforts of 1912 was marked, and, as in the case of its issue of a special public Caution on the occasion of the Coronation of 1911, they were well received by the public.

6. It was thus decided to repeat the issue for Christmas, 1913, and to improve and extend the work based upon the experience gained.

7. Only one size of "Caution" was issued on this occasion, *i.e.*, folio size, and the distribution commenced about December 1, —*i.e.*, earlier than in the previous year. The issue was limited strictly to England as funds did not permit of a thorough distribution over a wider area. Experimentally, however, a small distribution was arranged for Gibraltar, Malta, Cairo, and Alexandria with the view of gaining experience of a suitable procedure for later on dealing with British communities in the Colonies or abroad.

8. As far as England was concerned, the Caution was sent—generally with a covering letter—to all places where Christmas Festivities form a notable feature, such as Hospitals, Asylums, Orphanages, Prisons, Industrial Schools, Hostels, Public Halls, Assembly Rooms, Hotels, large Boarding Houses and the like. The Military Commands in England received copies for distribution among regiments for their Christmas celebrations, and other officials in responsible positions who could directly influence or control the necessary safeguards at gatherings of this kind, also received the "Caution" direct.

9. Arrangements were made on an extensive scale with the Chief Constables of many of the large Municipalities and the Chief Constables of County Constabularies to arrange for the posting up of the folio "Caution" at the Police Stations, and on the official Notice Boards, as also for their distribution to the owners of such premises as in their view were likely to be affected. It is a matter of congratulation that nearly all the Chief Constables responded most heartily to the Committee's suggestions, and the weeks previous to Christmas were busy ones in providing the suitable supplies either directly to the Chief Constables or to their many district offices and sub-offices in country districts according to their wishes. Out of 41 English counties outside of London, no less than 32 were dealt with on these lines.

10. Besides this, several of the leading public authorities who influence matters of this kind were communicated with, with a view to their issuing notices of their own, and in several cases they did so, whilst a number of organizations, such as the Boy Scouts Headquarters, the Salvation Army Headquarters, the St John Ambulance Association and the Corps of Commissioners undertook to bring the matter to the notice of their members and to post up the Committee's "Cautions" in suitable positions under their control.

The total number of "Cautions" distributed was 23,000, and the total number of special letters written on the subject exceeded 1,800.

Outside London, the following counties appear to have taken up the matter most actively—i.e., Buckinghamshire, Cheshire, Cumberland, Devonshire, Kent, Lancashire, Leicestershire, Lincolnshire, Westmorland, and Yorkshire, this being mainly due to the activity of the respective Chief Constables of the counties and the municipalities therein.

Of the Army Commands the Eastern and the Western Commands took up the matter most actively; of the Dockyards, those at Chatham and Portsmouth.

The Salvation Army stood first among the organizations to assist and next the Boy Scouts Headquarters.

As to London, the following details regarding the posting up of copies may be of interest. Among other places they were posted at 178 hospitals and similar institutions, 46 asylums and orphanages, 300 places of public worship, 250 shops of the "store" type, and 54 hotels.

Copies were also put at the disposal of the prisons and industrial schools throughout the country.

11. The Executive desire to give special prominence to the courteous assistance of the Public Press of England, both London and Suburban, Provincial and Technical, in giving publicity to the "Caution" in prominent positions and strong type. There were no less than 350 journals to the Executive's knowledge that gave notices on the matter—journals stated to have an aggregate circulation of over eleven millions—and many of these journals not

# THE BRITISH FIRE PREVENTION COMMITTEE

(FOUNDED 1897 INCORPORATED 1899)

FREE ISSUE  
FOR THE  
PUBLIC USE

## CAUTION!

SPECIAL  
XMAS  
WARNING

### CHRISTMAS FESTIVITIES AND PARTIES

\* Fires at holiday time usually occur in buildings filled with people and may become holocausts.

\* Light inflammable decorations make fires easy to start and facilitate their spreading. A match, a candle flame, or a gaslight may do it, likewise an electric spark or defective wiring.

1. **XMAS TREES** : Xmas trees should not be placed near window curtains or in positions in which a draught may cause inflammable draperies, etc., to be blown on to the lights.
2. **EVERGREENS** : All dry shrubs are easily ignited, especially the fir trees used at Xmas, as they contain a considerable quantity of resin.
3. **CANDLES** : Candles are easily bent out of shape, even by the slight heat of another light below. Bent candles drop down and set things alight.
4. **PAPER LANTERNS** : All paper and similar lanterns should be hung by wire, and during the period they are lighted should be watched to see they do not swing. A swinging "Chinese lantern" easily catches fire.
5. **TISSUE PAPER** : Tissue paper (unless properly treated) should not be used as a decoration or covering for illuminated globes.
6. **COTTON WOOL** : Cotton wool (unless properly treated) should not be used to represent snow, as it is highly inflammable. Asbestos fibre or slag wool are good substitutes.
7. **CELLULOID** : Celluloid being a highly inflammable material, should not be used on Xmas Trees or in decorative schemes.
8. **MATCHES** : Do not leave matches within the reach of children. Children should not be allowed to light Xmas tree or other candles unless adults are present. They frequently set fire to their clothing instead.
9. **ELECTRIC WIRING** : Do not make the slightest change in electric wiring without consulting a competent electrician or an electrical inspector.
10. **"SNAP DRAGON"** : In playing "Snap Dragon," the players should be warned not to shake any lighted spirit upon muslin, flannelette or other highly inflammable clothing. Players should remove any such accessories as celluloid bangles, strings of celluloid "beads" or hair ornaments.

\* BUCKETS OF WATER SHOULD ALWAYS BE AVAILABLE.

8 Waterloo Place, Pall Mall  
London, S.W.

Issued by The British Fire Prevention Committee.  
EDWIN O. SACHS, F.R.S.E. Chairman  
ELLIS MARSLAND General Hon. Secretary.

Additional Copies of this "Warning" are obtainable from the Committee upon written application.

[All Rights Reserved]

REPLICA OF A FOLIO "CAUTION" ISSUED IN DECEMBER, 1913.

only gave the Committee's " Caution " in full, but commented on it editorially for the benefit of their readers. This hearty co-operation by the general press of England was of immense assistance to the success of the scheme.

12. The results of the work give considerable satisfaction to the Committee. There has been no case reported of any fatality owing to Christmas festivities in England, very few minor injuries and a remarkable diminution in the number of fires, large and small, that usually occur during this period of the year.

13. That the work of the Committee has been appreciated by the public is manifest by the large number of kindly letters, often containing valuable suggestions, that have been received.

14. The Executive, while desiring to express their satisfaction at the success of this undertaking and its excellent results, wish to bring to the notice of the Public Authorities, Institutions, benefactors and others concerned, that such work has to be done by a very small force of voluntary workers and at a quite substantial expense to the Committee and certain individual members. The Committee, owing to its extensive research work, is entirely dependent on voluntary support for its funds. If, therefore, some of the particular Authorities and Institutions concerned were not only to encourage the Committee by words of praise, but were to become regular subscribers to the Committee or to their publications, it would not only assist such work as this, but also allow the Committee to do other fire preventive work—equally necessary, but postponed for monetary reasons.

15. To all, however, who have co-operated with the Committee, and particularly to the Chief Constables of Municipal and County Police and to the Press of England, the Committee's thanks are heartily tendered for the excellent assistance rendered where cordial co-operation was so necessary.

*The Special Sub-Committee in charge of the issue:*

*(Signed)*

EDWIN O. SACHS, *Chairman.*

HORACE S. FOLKER, *Hon. Treasurer.*

ELLIS MARSLAND, *Gen. Hon. Secretary.*

*April, 1914.*



## PART III.

### SAFEGUARDS FOR SCHOOL ENTERTAINMENTS.

The Board of Education (Welsh Department) has recently issued the following suggestions of the British Fire Prevention Committee in one of their publications after consultation with this body. Additional information is given by the Committee to school authorities desiring same:

## FIRE!

(Precautions suggested by the British Fire Prevention Committee.)

1. **GENERALLY.**—Care should be taken in arranging any exhibition, dramatic representation, tableau, &c., to take adequate precautions against fire, especially where children are concerned.

2. **DECORATIONS.**—Light inflammable decorations make fires easy to start and facilitates their spreading.

3. **TISSUE PAPER.** Tissue paper (unless properly treated) should not be used either as a decoration or for covering illuminated globes.

4. **COTTON WOOL.**—Cotton wool (unless properly treated) should not be used to represent snow. Asbestos fibre or slag wool are good substitutes.

5. **CELLULOID.** Celluloid, being a highly inflammable material, should not be used in decorative schemes.

6. **CURTAINS AND DRAPERY.**—Curtains and drapery may be rendered non-inflammable at the cost of a few pence by being soaked either in one of the several existing proprietary solutions tested by the British Fire Prevention Committee, or in a solution composed of 1 lb. of sulphate of ammonia, 2 lbs. of chloride of ammonia, to 1½ gals. of water.

\*,—Where there is a doubt as to the solution affecting fabrics, a small trial piece should be soaked and dried, and the solution, if necessary, used in a weaker strength.

7. **CLOTHING.** Flannelette should on no account be used. Muslin and similar light fabrics, if essential for performers, can be similarly rendered non-inflammable, but sensitive colourings are often affected and requires careful treatment.

See note \*,\* above

8. **BUCKETS.**—Buckets of water in considerable number should always be available.

9. **OTHER APPLIANCES.** It is also well to have at hand: Knives for cutting down draperies, step-ladders for reaching them, if available one or more hand pumps, and some thick cloths for throwing over any person whose garments have caught alight.

10. **EXITS.** Exits should always be kept clear

## PART IV.

### INFLAMMABLE MATERIALS FOR COSTUMES AND DECORATIONS IN PLACES OF PUBLIC ENTERTAINMENT AND THE HOME OFFICE "WARNING" (1913).

The attention of Members and Subscribers is specially called to a "Warning" issued from the Home Office on November 5, 1913 (218,210/11) for the notice of the licensing authorities concerned with places of public entertainment. A "Warning" such as the following may be deemed a fire-preventive measure of far-reaching importance, and the Secretary of State is to be congratulated upon authorizing its issue:

#### *THE CIRCULAR LETTER.*

I am directed by the Secretary of State to say, for the information of your Justices, that representations have been made to him as to the desirability of taking such steps as may be practicable with a view to prohibiting or restricting the use of inflammable cotton wool or similar inflammable material for costumes or decorations in places of public entertainment. Costumes or decorations made of this material are extremely dangerous, and in one case, a year or two ago, five children were so severely burnt that they died, owing to the jackets of cotton wool in which they were dressed for a theatrical performance taking fire.

The Justices will agree that everything possible should be done to meet this danger, and the Secretary of State desires to suggest that they should, if they have not already done so, make it a condition or a rule with regard to licences granted by them in respect of theatres, music-halls, cinematograph theatres, or other places of public entertainment, that highly inflammable materials such as cotton wool must not be used for the costumes of the performers or the decoration of the premises, unless they have been rendered fire-resisting and are maintained in that condition. He may mention that one of the rules to be observed by licensees of premises licensed by the London County Council is that all scenery, wings, sky borders, cloths, draperies, gauze cloths, floral decorations, properties, hangings, curtains, etc., whether on the stage, in the auditorium, or in other parts of the premises, must be rendered and maintained non-inflammable, and the Council has in addition taken action with regard to the specially serious danger of clothing children in cotton wool. The Secretary of State understands that there is no difficulty in using, instead of cotton wool, a suitable down or one of the mineral substitutes for cotton wool.

I am, Sir,

Your obedient Servant,

EDWARD TROUP.

*Home Office,  
Whitehall, S.W.  
5th November, 1913.*

**PART V.**  
**CELLULOID DANGERS AND THE HOME OFFICE**  
**“WARNING” (DECEMBER, 1913).**

Shortly after the Home Office Departmental Committee on Celluloid Dangers had completed their report the Home Secretary issued the following Circular Letter to the various local authorities concerned. The precautionary measures to which special attention is drawn claim particular attention:

*THE CIRCULAR LETTER.*

The Secretary of State desires me to say, for the information of your Council, that he has received the Report of a Committee which he appointed to enquire as to the precautions necessary in the manufacture, storage and use of celluloid and celluloid articles. The Report which is now in course of publication will shortly be available for detailed consideration on the part of local authorities, but meanwhile the Secretary of State thinks it advisable to bring to their immediate notice, in view of the nearness of the Christmas shopping season, a recommendation of the Committee that local authorities should issue warnings to shopkeepers as to the special precautions which should be taken in shops to guard against accidents in connection with the storage and exhibition of celluloid articles.

It is well known that celluloid is highly inflammable and, once it has caught fire, burns with great rapidity and fierceness. In certain circumstances it will ignite even without the direct application of flame. The ignition of a film in a cinematograph machine is a familiar occurrence, and the Committee report that celluloid articles have been known to catch fire through the accidental focussing of the sun's rays upon them in a shop window, or through being placed in contact with an electric light bulb or a steam radiator. Further, celluloid is subject to decomposition at comparatively low temperatures, when it emits inflammable and poisonous gases. A fire in which a large quantity of celluloid is involved is of a specially dangerous character. The density and poisonous nature of the fumes render it difficult for the fire brigade to approach the seat of the fire, while the rapidity with which the fire spreads renders its isolation an exceptionally arduous task. When well alight great jets of flame are shot out causing greater risk to adjacent buildings than an ordinary fire.

In view of the fact that the amount of celluloid exhibited and stored is usually small in proportion to the total stock and the articles are distributed in different parts of the premises, the Committee have not considered it necessary to apply to shops the compulsory regulations which they propose for celluloid stores, but they recommend that the following simple precautions should be adopted and that the local authorities should bring them to the notice of shopkeepers as occasion may require. The danger, as

the Committee point out, is obviously greatest at Christmas and sale times when the stock is greater than usual, the shops are crowded, and the assistants are in consequence more liable to neglect precautions.

(1) The quantity of celluloid goods displayed in the shop should be limited as far as possible, and the reserve stock should be kept in closed packages or receptacles.

(2) The safest position for the bulk of the stock is on the top floor. In no case should it be so placed that in the event of fire the exits would be endangered.

(3) Celluloid articles should not be placed in proximity to radiators, flues or electric lamps, or otherwise exposed to heat; or displayed in baskets on the floor where a match or other burning or smouldering material might be dropped on them.

(4) The use of sealing wax on parcels containing celluloid articles should be avoided. The dropping of burning wax on celluloid was responsible for the disaster which occurred in Moor Lane, London, in 1912, and caused a loss of nine lives.

(5) Packages containing celluloid articles should not be soldered without a protective plate being placed between the part to be soldered and the celluloid. Several serious fires are reported to have occurred in Paris owing to careless methods of soldering.

(6) Fire buckets or other means of extinguishing fire should be provided and kept where they will be readily available. Water is by far the best extinguisher of burning celluloid.

(7) Cinematograph films are sometimes festooned in shop windows. This practice is very dangerous and ought never to be allowed.

The Secretary of State recommends that your Council should at once issue a warning urging the adoption of these precautions to all shopkeepers in the numerous trades in which celluloid articles are usually sold (*e.g.*, drapers, chemists, jewellers, dealers in fancy goods and toys, photographic films, etc.).

I am, Sir,

Your obedient Servant,

EDWARD TROUP.

*Home Office,  
Whitehall, S.W.  
December 4, 1913.*

## PART VI.

### PUBLIC CONTROL AND THE CELLULOID INDUSTRY IN NORTHERN GERMANY.

In connection with the Committee's enquiries as to Celluloid dangers and the protective measures adopted by German public authorities, the cities of Berlin and Leipzig were visited by the Committee's Chairman and Hon. Treasurer jointly. The following is a Memorandum on the visit:

#### MEMORANDUM.

When visiting the cities of Berlin and Leipzig in June, 1913, facilities were afforded us by the Chief Officers of the local Fire Brigades to pay surprise visits in the company of their officers to certain establishments where celluloid was being handled.

We were further provided with copies of all existent regulations governing the subject of celluloid dangers respectively in Berlin (Prussia)\* and in Leipzig (Saxony). We were also provided with copies of the instructions issued to the inspecting officers of the Berlin Royal Police Fire Brigade with a view to ascertain their requirements in the different districts under their inspection.

At Berlin we visited a small film renter's establishment, an extensive establishment of film producers, and a factory in which celluloid, among other materials, was being manipulated, handled and stored in considerable quantities.

The film renter's establishment was a small concern with a stock of, say, 500 films. The regulations were being observed in every respect. The place was very tidy.

The film producer's establishment, which was conducted on a large scale, was located on the top floors of adjoining buildings of the warehouse class. The processes of this concern included the taking of photographs and scenes in a large studio, and the whole process of developing, drying, tinting, manipulating, repairing, boxing, etc., together with storage on a large scale. The regulations appeared all to be strictly adhered to. The cleanliness and tidiness of the establishment were remarkable. The requirement *that not more than three films should lie open in any one place during manipulation or repairs seemed to be closely observed.* The only weak spot seemed to be the exits from the dark rooms, which were too complex. In the event of fire, these premises, which were at a considerable height above pavement level, would be difficult for the Fire Brigade to deal with, as the approaches to the building were entirely unsuitable for telescopic or long ladder work.

The factory visited was located on the upper stories of adjoining buildings in which a certain proportion of the work done in the factory necessitated the handling of celluloid. This handling was largely in the matter of production of small articles for wearing

\* The Prussian Regulations of the 7th May, 1910, of which a translation appears in the English Blue Book containing the evidence of the Departmental Committee on Celluloid, Cd. 7150 (price 3s.), have served as a basis for the regulations in force throughout the various States of the German Empire.



apparel. The regulations were kept to. The cleanliness and neatness were remarkable. A feature calling for remark was that when the goods lifts were being unloaded, the operation of unloading blocked the existing staircases.

At Leipzig a large celluloid fabricating factory and a film renter's store were visited.

The celluloid factory produced all manner of minor fancy articles and also a considerable quantity of imitation linen. The regulations appeared to be fully observed. *The whole of the manipulations of the celluloid appeared to be conducted without the use of any open light whatsoever, steam appliances, and to a certain extent electrical appliances, being apparently used for softening the material.* The cleanliness and neatness of the establishment were remarkable.

The film renter's store was a very small establishment on the lower floor of a tenement building. The regulations did not appear to have been fully observed. The package and storage of the films for transit were exceptionally bad. The place had an untidy appearance.

The value of these visits lay primarily in the possibility of surprising the occupiers and comparing the regulations with the actual practice as to the extent to which they were being observed. In the case of the first establishment visited at Berlin, we selected it at haphazard when driving down a street, and in the other four cases the officer who was accompanying us suggested the establishment en route. *We in each case asked the occupier or his representative if the regulations bore hardly upon them, or interfered with their trade. They invariably replied in the negative.* In two cases, however, they said that the introduction of the regulations originally had been considered inconvenient, but that they had got quite used to them and did not find them irksome or detrimental to their interests.

EDWIN O. SACHS.  
HORACE S. FOLKER.

*December, 1913.*



**PART VII.**  
**CINEMATOGRAPH FILMS IN PARIS.**  
THE NEW REGULATIONS OF THE PARIS PREFECTURE  
OF POLICE (1913).

The following important regulations have been issued for the City of Paris prohibiting the use of celluloid cinematograph films and are serving as a model for similar regulations in other French centres:

*THE REGULATIONS*  
(Free Translation from the French.)

WE, the Prefect of Police,

Having regard to the laws passed on 16th and 24th August, 1790 (title XI), on 19th to 22nd July, 1791 (title I, article 46), the proclamations of 12th Messidor year VIII (*12 messidor an VIII*), of 3rd Brumaire year XI (*3 brumaire an XI*) and the law of 10th June, 1853;

Having regard to the regulations of 10th August, 1908;

Having regard to Article 471, § 15, of the penal code;

Considering that the use of cinematograph films of celluloid is a source of serious danger with respect to fire, and that it is actually possible to substitute in their place films which do not easily ignite, called "safety films" (*de sécurité*);

Considering, on the other hand, that it is equitable to allow owners of cinematograph establishments a sufficient interval to enable them to obtain safety films;

At the proposal of the Secretary General,

WE ORDER the following:

*Article 1.*

The use of cinematograph films of celluloid or any other easily inflammable material is forbidden in establishments to which the public is admitted.

*Article 2.*

An interval, which will end on 1st July, 1915, is accorded to owners of cinematograph establishments to enable them to conform with this regulation.

There is no alteration with regard to the precautionary measures with respect to cinematographs to be found in title VII, chapter I, of the Regulation of 10th August, 1908.

*Article 3.*

This regulation will be printed, published and posted up in Paris and in the parishes under the jurisdiction of the Prefecture of Police.

The following are instructed to see that this regulation is complied with, each in his own sphere:

In Paris, the Director of the Municipal Police, the Commissioners of Police, the Police Officers and others in authority in the Prefecture of Police;

And in the towns and parishes of the Seine Department and the Seine-et-Oise Department under our jurisdiction, the Mayors, Commissioners of Police and all public authorities;

The Colonel of the Republican Guard, the Colonel of the Seine Police (*gendarmerie*) and the Colonel in command of the Fire Brigade are required to assist in its execution.

For the Prefect of Police:

The Secretary General,

E. LAURENT.

The Prefect of Police,

HENNION.

Paris: 13th November, 1913.

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**PART VIII.**  
**FLANNELETTE DANGERS.**  
**THE NEW ENACTMENT (1913).**

The views of the British Fire Prevention Committee together with a Draft Bill and a Draft Standard Government Test were published in Red Book No. 180.

A private Bill which had the support of the Home Secretary was brought before Parliament and put on the Statute Book in 1913.

The purport and scope of this Act may be described as follows:

The Act prohibits the sale of textile fabrics under misleading descriptions in respect of non-inflammability or safety from fire. For this purpose Section 1 provides that any person who sells or has in his possession for sale any textile fabric to which the quality of non-inflammability or safety from fire is attributed, by description, advertisement, verbal representation, or otherwise, shall, unless such textile fabric conforms to the standard of non-inflammability prescribed by regulations of the Secretary of State, be liable to the penalties thus mentioned in the section.

The regulations which have been made by the Secretary of State prescribe (paragraph 2) a method of testing the inflammability of a textile fabric; if, on a sample of the fabric being tested accordingly, it does not comply with the conditions set out in paragraph 1 of the Regulations, it is to be deemed not to conform to the standard of non-inflammability and may not be sold as non-inflammable or safe.

As to the regulations of the Secretary of State, these are of technical interest to many members and subscribers as they are based on the British Fire Prevention Committee's Standard Test for flannelette. They read as follows:

*FABRICS (MISDESCRIPTION) ACT, 1913.*

*Regulations made by the Secretary of State for the Home Department, dated 20th January, 1914, under Section 1 of the Fabrics (Misdescription) Act, 1913.*

— In pursuance of Section 1 of the Fabrics (Misdescription) Act, 1913, I hereby make the following regulations:

1. A textile fabric shall be deemed to conform to the standard of non-inflammability, if, when tested in accordance with the prescribed method of testing, it is not set alight, or, if set alight, burns without a flame or with a flame which does not spread but converges and dies out.

2. The prescribed method of testing shall be as follows:

A sample of the fabric measuring not less than one square yard shall be taken, and, after it has been four times in succession thoroughly washed with soap and water, dried and ironed, shall be suspended vertically without folds or creases and so that the lower edge shall not be a selvedge or a folded edge. The flame of a wax taper not less than  $\frac{1}{8}$  inch or more than  $\frac{3}{16}$  inch in thickness shall then be brought in contact with the fabric at its lower edge and shall be kept in contact for not less than twelve or more than fifteen seconds.

Whitehall,  
January 20, 1914.

REGINALD McKENNA,  
One of His Majesty's Principal  
Secretaries of State.

## PART IX.

### PORTABLE CHEMICAL FIRE EXTINGUISHERS.

The British Fire Prevention Committee has found it necessary to formulate a Standard Test for portable chemical fire extinguishers from a constructional point of view, having regard firstly to the several fatalities that have occurred through these appliances bursting when being operated, and secondly through the tendency of certain irresponsible makers or their agents to put on the market appliances of the "cheap-jack" type that are distinctly dangerous to handle.

The new Standard Test which this Committee has formulated is given in Memorandum I. of July, 1913, and came into operation with the year 1914.

The Committee has also formulated a provisional Specification for standard portable chemical fire extinguishers from the constructional point of view, which should serve as a guide for would-be purchasers of such appliances. This Specification is set out in Memorandum II. of October, 1913, and also comes into use as from January, 1914.

In making this announcement the British Fire Prevention Committee wishes to indicate that whilst portable chemical fire extinguishers meet a public requirement, the members of the general public when purchasing extinguishers should not only see that they conform to the Standard Test and Specification adopted by this Committee, but that they should keep constantly in mind that such appliances require *care in maintenance* and handling.

The Committee also desires to impress upon the public that portable chemical fire extinguishers are nothing more than *first-aid* appliances.

In addition, the public should remember that portable chemical fire extinguishers are not the only form of portable *first-aid* appliances, but that ordinary buckets of water and hand-pumps are equally, if not more, effective in the majority of cases.

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### MEMORANDUM I.

#### STANDARD TEST FOR PORTABLE CHEMICAL FIRE EXTINGUISHERS.

##### SUPPLEMENTARY CONSTRUCTIONAL TEST.

Extinguishers to be tested by Hydraulic Pressure to 350 lbs. per sq. in. (23 8 *atmos.*) for 5 minutes.

*Note.*—This Standard Test is in addition to the tests which the Committee has been and is using to ascertain the efficiency or otherwise of Portable Fire Extinguishers in dealing with actual fires.

*Issued by Order of the Executive:*

EDWIN O. SACHS, *Chairman.*

ELLIS MARSLAND, *Gen. Hon. Secretary.*

*July, 1913.*

## MEMORANDUM II.

### SUGGESTED SPECIFICATION FOR STANDARD PORTABLE CHEMICAL FIRE EXTINGUISHERS.

*Size* to be limited—not to exceed 3 gallons (13·6 litres), nor to be under 1 gallon (4·5 litres).

*Construction* to be as follows:

*Shell*: Cylindrical in form not exceeding 8 in. (·2m.) diameter.

*Ends*: Dished, with riveted lap joint. The radius not to exceed the diameter of the end of the shell.

*Material*: Copper or steel, well coated with tin on the inside and painted on the outside.

*Gauge*: 18 B.W.G. (1·218mm.).

*Seams* (side and top and bottom): Soldered, lap-jointed and riveted. Rivets at 1 in. (·0254m.) pitch.

*Collar with Screw Cap*: Brass or gun-metal 1 in. (·0254m.) in depth with safety holes. Opening to be 3 in. (·0762m.) in diameter. Interrupted threads not allowed.

*Outlet*: Brass or gun-metal,  $\frac{3}{8}$ -in. (·0095m.) bore with strainer.

*Nozzle*: Brass or gun-metal not less than  $\frac{1}{8}$  in. (·0031m.)

*Hose*:  $\frac{3}{8}$  in. bore and sufficiently short to prevent nozzle touching the ground, &c.

*Plunger and Handles*: Strong and conveniently placed

*Washer*:  $\frac{1}{8}$ -in. rubber or leather.

*Valves or Control Cocks*: None.

*Expansion Chamber* to be provided.

*Air Space* to be 15 per cent. of the volume of the cylinder.

*Directions for Use*: Maker's or vendor's name-plate, year of manufacture, particulars of test: all placed on the Extinguisher by means of transfers.

*Mounting*: Provision to be made for connexions for testing purposes.

*For the Extinguisher Research Sub-Committee:*

D. W. WOOD,  
Chairman.

8th October, 1913.

The above Memoranda are obtainable from the Offices of the British Fire Prevention Committee, No 8, Waterloo Place, London, S.W., upon written application to the Registrar (with return postage).

## PART X.

### SELF-CONTAINED SMOKE HELMETS.

The British Fire Prevention Committee is constantly receiving inquiries from public authorities as to self-contained smoke helmets, frequently known as oxygen smoke helmets or compressed air smoke helmets.

This Committee has not as yet been able to undertake any research work in this matter, and no tests with smoke helmets of any kind have so far been conducted by this body.

It, however, thinks it is advisable that as far as fire brigade work is concerned a report by the Fire Brigade Committee (dated October 30th, 1913) which appeared in the minutes of the London County Council's proceedings should have the attention of the members and subscribers of the Committee, as indicating that considerable difficulties have arisen when specifying a suitable self-contained smoke helmet for fire brigade work, and that grave dangers exist as to the use of unsuitable apparatus or the use of suitable apparatus by men not properly trained. This report is given below.

Should further particulars be required on the subject the Committee would suggest that enquiries be addressed to Dr. J. S. Haldane, F.R.S., of Oxford, referred to below, as an independent authority conversant with the question.

#### *THE REPORT.*

##### SMOKE HELMETS IN THE LONDON FIRE BRIGADE.

We have had under consideration the question of the efficacy of the self-contained smoke helmet apparatus in use by the fire brigade and have had before us a report by Dr. J. S. Haldane, F.R.S., on an examination made by him of apparatus of this kind used by the brigade. Dr. Haldane states that, as a result of careful experiments, he has formed the opinion that, of the two types of self-contained smoke helmets supplied to the brigade, one is not suitable for fire brigade work, while the other, although defective in certain respects, can be so altered as to be satisfactory for brigade purposes. The makers of the apparatus of the latter type have submitted a set of apparatus altered in accordance with Dr. Haldane's suggestions and satisfactory results have been obtained from the altered apparatus.\* In his report Dr. Haldane expresses the view that no man should use smoke helmets in circumstances of danger, unless he has been thoroughly trained in the use of such apparatus in circumstances as difficult as he is likely to encounter when wearing the apparatus. The present arrangements cannot be regarded as meeting these requirements. The system under which self-contained smoke helmets have hitherto been used in the brigade has been to carry the apparatus in pairs on fire engines and to train a few men at each of the thirteen stations equipped with such apparatus, the training being given by instructors who have passed through a short course at one of the colliery rescue stations.

The facilities at an ordinary fire station for training under severe conditions are limited, as also is the time available, for the reason that

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B.F.P.C. Note: \* Messrs Siel e, Gorman's new model.



men cannot be withdrawn from their ordinary duties at a station in order to specialize in smoke helmet work. The circumstances in which it is necessary to use smoke helmets are, of course, fraught with the most serious danger, and it is of the utmost importance that all possible steps should be taken to minimize the risks to which firemen using the apparatus are exposed and to facilitate the work of the firemen in rescuing persons exposed to danger. We think it imperative, therefore, that steps should be taken without delay to improve the arrangements for the use of smoke helmets, and we propose that the self-contained smoke helmets shall be withdrawn from the ordinary running appliances and that two motor appliances, specially fitted for smoke helmet work, shall be obtained, one to be placed at the chief station of the brigade and the other at the Euston fire-station. We propose that the two appliances shall be manned by specially selected men who will devote practically their whole time to maintaining the apparatus and training and practising therewith, and we propose also that the appliances, in addition to carrying self-contained smoke helmets, shall be fitted with dynamos and portable search-lights, oxygen reviving apparatus and electric fans for blowing air into places where dense smoke or poisonous gases exist.

Our scheme provides for smoke helmets\* of a simpler and less expensive type, which are already in the possession of the brigade, to be kept at nineteen fire-stations in different parts of London for use, if thought advisable, pending the arrival of the special appliance equipped with self-contained helmets.

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\* B.F.P.C. Note: Koenig Type.

## PART XI.

### THE COMMITTEE'S ENQUIRY OFFICE.

#### CHARACTERISTIC QUERIES AND REPLIES.

As indicated in the body of the Committee's annual record, the work of the Committee's technical Enquiry Office has largely increased.

As the Executive are being frequently asked in what form technical enquiries would be replied to, the following instances are given as specimens of enquiries from a public authority in the East who are subscribers, an industrial subscriber, and a school authority in England:

#### RE A POSSIBLE CAUSE OF ARSON IN THE EAST.

Certain matters regarding a case of arson in an Eastern city being difficult to ascertain, a subscribing authority sent an enquiry on the subject giving particulars and asking for observations.

##### *Subscribing Authority's Enquiry.*

We were called to a house well furnished, where there had been a series of about twenty-four small fires in various rooms in less than eighteen hours.

The articles burnt included mosquito nets, feathers on hats, velvet, silk dresses, cotton and woollen dresses, tapestry, silk flower decorations, pillow slips, etc. Some occurred inside closed trunks and others inside cardboard hat boxes. With the exception of the cotton mosquito nets, the parts burnt were only a few inches.

I called the municipal chemist and he took some of the articles for analysis but reports he can find no trace of any chemicals.

A police officer who was in one of the rooms just after one article had flared stated there was only a bright flame, no smoke, but choking fumes, which quickly passed away.

I feel sure there must have been some chemical sprayed on the articles; they were quite dry.

Could you give me the name of any chemical or chemicals which would act in this manner? We could, on knowing the name of same, find out the source and certainly get a conviction.

#### UNOFFICIAL B.F.P.C. REPLY.

In reply the following "Notes" were sent:

##### *Note from Member A.*

*Phosphorus is kept in the form of sticks and in water, and if this water be allowed to evaporate the phosphorus will burst into flame, giving off white vapours of garlic-like odour, which consist of peroxide of phosphorus, and which are poisonous.*

*I think that if phosphorus were powdered or broken up into small pieces and mixed with water and sprayed on to cotton goods and the like, as soon as the water evaporated the particles of phosphorus would burst into flames and would burn very freely and quickly, so that it is quite possible that only a small portion of the material on which the phosphorus rested might be burnt.*

*What I mean is, suppose one took a portion of phosphorus and put it*  
*page 37*

on a piece of wood, the phosphorus would go off straight up into the air, and would only make the wood brown.

*Note from Member B.*

*I think the liquid sprinkled over the house must have been phosphorus dissolved in either chloroform, or carbon bisulphide, damped down with a little almond oil.*

*I have made up such mixtures and find that carbon bisulphide with a small piece of phosphorus dissolved in it will, when poured on to cotton waste, in the open, flame up and take fire as described in the letter after twenty to twenty-five minutes.*

*The almond oil prevents the quick evaporation of the phosphorus solvent, and delays very considerably the time of the fire. A very small quantity of phosphorus will make a lot of liquor.*

*The liquid is exceedingly dangerous to handle and will lead to terrible burns.*

RE TEST OF THE EFFECT OF FIRE ON COCOA BEANS.

An Industrial Subscriber interested in the storage of cocoa beans very wisely desired to obtain some data of his own as to their relative inflammability and conducted the tests referred to below. He then requested a commentary on the tests which was given on behalf of the Committee:

*Subscriber's Statement.*

This test was made with the object of ascertaining the speed at which a fire would spread if it took place in a store containing sacks of raw cocoa beans, and also to see if there were any serious danger in having these beans stored near other buildings.

The test took place on a roadway running across some open ground and was made on a fine day with the wind blowing steadily from the south. Two sacks of beans were placed in an upright position close to each other, and against each of these were laid three sacks of beans with the ends touching the upright sacks. The eight sacks thus formed a fairly compact pile somewhat similar to the method adopted in stacking the sacks in the stores.

At 12.20 a large brazier, having a good coal fire previously lit, was then placed on three bricks to ensure a good draught and this was placed in contact with the two upright sacks and to the south of them. The sacks adjacent to the fire immediately caught, and the cocoa beans instantly began to run out and soon had accumulated round the brazier and between the crevices of the other sacks, and in the course of about ten minutes the loose beans were well round the brazier on the north side, and they had also accumulated in a gradual heap on the eastern and western sides.

After about fifteen minutes a large quantity of firewood was placed on the south side of the brazier and heaped up on to the beans, and a very fierce heat was soon raised, and this was maintained for about forty-five minutes. At the end of this time the brazier was removed from its position, and a small hand pump was brought up and a jet of water played on to the beans; the flames were almost immediately put out.

After playing over the whole of the heap for a few minutes, measurements were taken to ascertain the depth the fire had penetrated. It was found that the greatest distance to which the fire had reached was about three inches, and this occurred at the point where the brazier touched the beans at the beginning of the test. Owing to the bursting of the sacks early and thus allowing the beans to run round the ends of the other sacks, some of the sacks which had been placed flat were practically untouched. Two of these had very small holes at the end nearest the fire and a third was untouched by the flames.

After this inspection the brazier was put back into its position again and

about 5cwt. of the loose beans were heaped round it; a large quantity of wood was also heaped well round the heap of beans and a good fire was started. This was then left to burn itself out. It was burning with a very bright flame thirty hours afterwards and it continued to burn until 11 a.m. on Monday. It thus burnt for over forty-six hours. The only remains at this time were about two buckets of very fine white ashes.

This test seems to prove that, although cocoa beans contain such a large amount of fat, they are very slow in combustion, and there does not seem very much danger from the fire point of view, and the chief danger would probably be the smell of the smoke affecting the taste of the cocoa which may be untouched by the fire.

#### UNOFFICIAL B.F.P.C. OBSERVATIONS IN REPLY.

1. *We would point out that the temperature of the air round about the lighted brazier would fluctuate with each gust of wind, and consequently would only represent the result of a fire under exactly similar conditions.*

2. *As, however, we presume that cocoa is usually stored in buildings, it seems that a test in an enclosed place would be necessary to obtain conditions similar to what would be found in actual warehouse storage. We need hardly point out that the extension of many fires is due not only to the actual products in combustion, but to the radiated heat generated therefrom.*

3. *A building in which combustible material is stored may be very severely damaged by the effects of a comparatively small quantity of burning material provided the heat therefrom is hemmed in so that the temperature of the whole cubical space is brought up to a point near that of ignition, the result being that the opening of a door or the breaking of a few windows would admit sufficient air to cause the whole building to burst into flame.*

4. *The location of a small fire as mentioned above may be rendered extremely difficult, or almost impossible, on account of the dense smoke given off by the burning of materials containing a large proportion of fatty matter.*

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#### RE SAFEGUARDS FOR COOKERY CLASSES.

A school authority being desirous of taking precautions to prevent injury to the pupils of their Cookery Classes, put an enquiry to the Committee which is given below, together with the reply:

##### *Enquiry from a School Authority.*

We should be greatly obliged for any information or suggestions you can forward us regarding a suitable blanket or other material for use in case of any girl's clothing catching fire when at Cookery work, also the solution you suggest for use in rendering same fire-resisting together with the cost of such solution.

#### UNOFFICIAL B.F.P.C. REPLY.

1. *Ordinary stout blankets or horse cloths cut to the size of about 6ft. by 6ft. will be found useful for covering over girls whose clothing has caught fire in cookery work.*

2. *Light weight asbestos sheets of the same size are, of course, still better, but they are somewhat expensive.*

3. *Regarding the rendering of blankets or horse cloths non-inflammable, I quote what the Committee suggested to the Board of Education (which will be found in the Board of Education's recent publication on*

"St David's Day" issued by its Welsh Department) in the matter of curtains and drapery:

"Curtains and drapery may be rendered non-inflammable at the cost of a few pence by being soaked either in one of the existing proprietary solutions tested by the British Fire Prevention Committee, or in a solution composed of:

1lb. sulphate of ammonia,  
2lb. chloride of ammonia,  
1½ gal. of water."

4. We think it is our duty to point out that we consider that for Cookery Classes some buckets of water (three-quarters filled) should always be available and within easy reach. We would also strongly urge that the girls attending the Cookery Classes be specifically warned at the commencement of each course of classes not on any account to wear flannelette when attending classes.







